Table S1. Sleep characteristics and control parameters.

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|  | **Elderly****(mean ± SEM)** | **Young****(mean ± SEM)** |  |
|  | **Insulin** | **Placebo** | ***P***  |  | **Insulin** | **Placebo** | ***P***  | ***P* (group)** |
| Total sleep (min) | 456.57 ± 11.12 | 458.39 ± 5.68 | 0.89 |  | 461.59 ± 3.37 | 460.70 ± 4.57 | 0.84 | 0.57 |
| Wake (%) | 17.68 ± 2.36 | 15.36 ± 2.21 | 0.46 |  | 1.29 ± 0.31 | 1.33 ± 0.34 | 0.92 | <0.001 |
| N1 (%) | 12.36 ± 1.37 | 11.34 ± 1.11 | 0.28 |  | 6.94 ± 0.73 | 6.86 ± 0.93 | 0.91 | <0.001 |
| N2 (%) | 51.64 ± 2.97 | 53.61 ± 2.16 | 0.34 |  | 54.44 ± 1.36 | 55.01 ± 1.60 | 0.64 | 0.41 |
| N3 (%) | 5.40 ± 1.27 | 6.15 ± 1.42 | 0.27 |  | 15.89 ± 0.98 | 15.72 ± 0.97 | 0.83 | <0.001 |
| REM (%) | 12.87 ± 1.48 | 13.49 ± 0.88 | 0.74 |  | 20.47 ± 0.83 | 19.98 ± 1.00 | 0.65 | <0.001 |
| Sleep latency (min) | 28.71 ± 10.74 | 24.29 ± 5.59 | 0.70 |  | 21.40 ± 3.12 | 20.52 ± 4.59 | 0.81 | 0.29 |
| Sleep quality | 2.61 ± 0.32 | 2.50 ± 0.29 | 0.69 |  | 2.45 ± 0.12 | 2.42 ± 0.15 | 0.84 | 0.19 |
| Sleepiness (evening) | 48.57 ± 3.76 | 42.86 ± 5.07 | 0.39 |  | 50.76 ± 3.54 | 51.44 ± 3.52 | 0.87 | 0.18 |
| Sleepiness (morning) | 31.43 ± 7.33 | 33.33 ± 6.44 | 0.92 |  | 32.65 ± 4.15 | 38.95 ± 4.93 | 0.23 | 0.56 |
| Hunger (evening) | 19.29 ± 3.99 | 27.86 ± 3.95 | 0.008 |  | 32.99 ± 4.24 | 33.29 ± 4.88 | 0.95 | 0.10 |
| Hunger (morning) | 31.67 ± 3.45 | 31.67 ± 4.05 | >0.99 |  | 67.87 ± 4.79 | 65.91 ± 4.99 | 0.63 | <0.001 |
| Thirst (evening) | 30.00 ± 4.69 | 34.29 ± 4.88 | 0.31 |  | 49.24 ± 4.66 | 50.21 ± 3.01 | 0.81 | 0.003 |
| Thirst (morning) | 50.83 ± 3.99 | 46.67 ± 6.07 | 0.38 |  | 66.22 ± 4.15 | 64.34 ± 4.87 | 0.63 | 0.037 |
|  |  |  |  |  |  |  |  |  |
| Mood (evening) | 4.14 ± 0.23 | 3.71 ± 0.19 | 0.14 |  | 3.83 ± 0.16 | 4.07 ± 0.10 | 0.11 | 0.83 |
| Mood (morning) | 3.71 ± 0.32 | 3.36 ± 0.26 | 0.14 |  | 3.90 ± 0.14 | 3.73 ± 0.15 | 0.17 | 0.20 |
| Well-being (evening) | 4.77 ± 0.12 | 4.38 ± 0.29 | 0.24 |  | 4.47 ± 0.13 | 4.60 ± 0.11 | 0.26 | 0.56 |
| Well-being (morning) | 4.77 ± 0.17 | 4.62 ± 0.14 | 0.34 |  | 4.60 ± 0.12 | 4.60 ± 0.13 | >0.99 | 0.52 |
|  |  |  |  |  |  |  |  |  |
| Heart rate (evening) | 62.46 ± 3.14 | 64.85 ± 2.83 | 0.35 |  | 60.30 ± 1.52 | 60.27 ± 1.63 | 0.98 | 0.19 |
| Heart rate (morning) | 62.75 ± 3.09 | 62.75 ± 2.73 | >0.99 |  | 62.36 ± 1.56 | 61.29 ± 2.05 | 0.56 | 0.54 |
| Systolic BP (evening) | 129.14 ± 3.69 | 131.43 ± 3.90 | 0.58 |  | 123.43 ± 2.93 | 123.90 ± 2.74 | 0.79 | 0.05 |
| Systolic BP (morning) | 129.77 ± 4.23 | 124.15 ± 4.47 | 0.10 |  | 119.61 ± 2.30 | 122.61 ± 2.67 | 0.18 | 0.04 |
| Diastolic BP (evening) | 79.14 ± 1.97 | 81.79 ± 2.80 | 0.44 |  | 81.17 ± 2.27 | 81.83 ± 2.03 | 0.72 | 0.83 |
| Diastolic BP (morning) | 79.15 ± 1.57 | 77.54 ± 1.69 | 0.40 |  | 74.82 ± 1.80 | 74.46 ± 1.86 | 0.86 | 0.07 |

Mean (±SEM) total sleep time and time spent in different sleep stages (relative to total sleep period) are indicated for both experimental nights (2300-0700 h). Psychological and physiological control variables were obtained before and after sleep. Subjective sleep quality was assessed by 4-point scale checklists including seven adjectives (e.g., “calm”, “relaxed”), and the average score was calculated. Appetite, thirst, and sleepiness were rated on visual analogue scales (0-100 mm) anchored at “not at all” and “extreme.” Mood and well-being were assessed on 5-point scales. BP, blood pressure. *P*-values derive from comparisons between conditions (*t*-tests) and group ANOVA main effects; elderly subjects, *n*= 14; young subjects, *n*= 28.